

Appln. No. 09/529,717
Amdt. dated December 23, 2003
Reply to Office Action of July 1, 2003

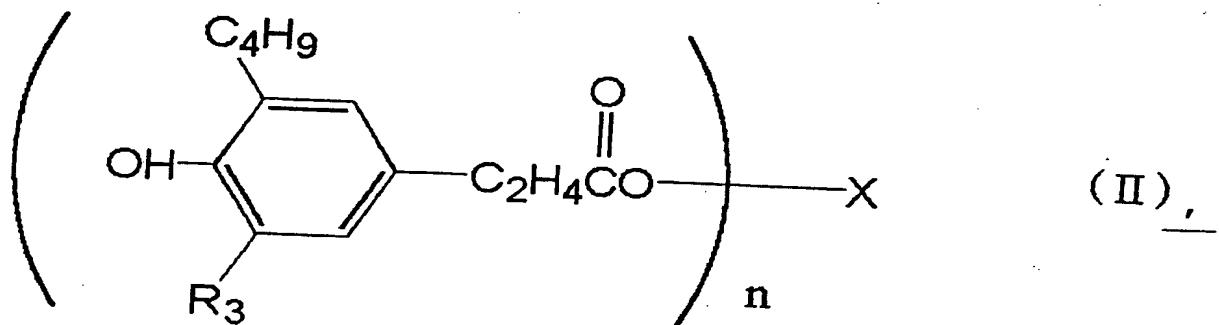
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

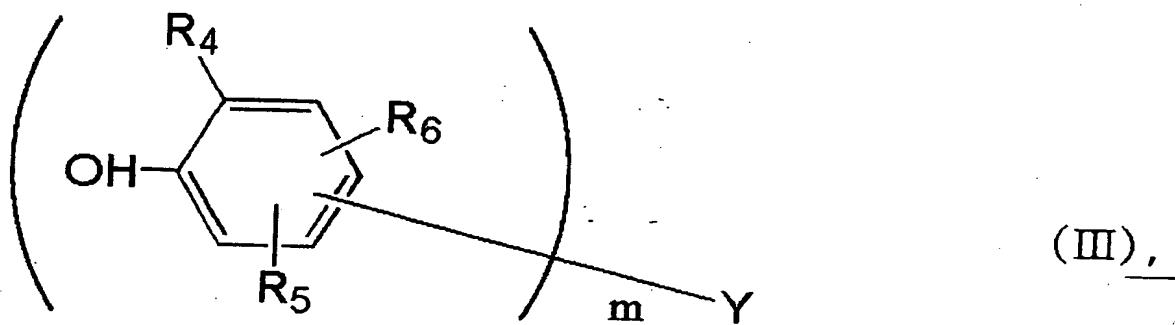
Claim 1 (canceled).

Claim 2 (currently amended): A polyurethane composition comprising
(a) a hindered phenol in an antioxidant effective amount, wherein said hindered phenol which is at least one selected from the group of compounds represented by the following general formula (II) and (III):



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wherein R_3 represents an alkyl group having 1 to 8 carbon atoms; n represents an integer of 1 to 4; and X represents an n -valent alcohol residue, having 1 to 18 carbon atoms, which optionally contains a hetero atom and/or a cyclic group,



wherein R_4 represents an alkyl group having 1 to 8 carbon atoms; R_5 and R_6 independently represent a hydrogen atom or an alkyl group, having 1 to 18 carbon atoms, which optionally contains hetero atom; m represents an integer of 1 to 3; Y represents an m -valent group, and when m is 1, it represents a hydrogen atom or an alkyl group, having 1 to 18 carbon atoms, which optionally contains a hetero atom, when m is 2, it represents a sulfur atom, an oxygen atom or an alkylidene group having 1 to 4 carbon atoms, and when m is 3, it represents an isocyanuric acid- N,N',N'' -trimethylene group or a 1,3,5-trimethylbenzene-2,4,6-trimethylene group, and

(b) an amide represented by the following general formula (I):



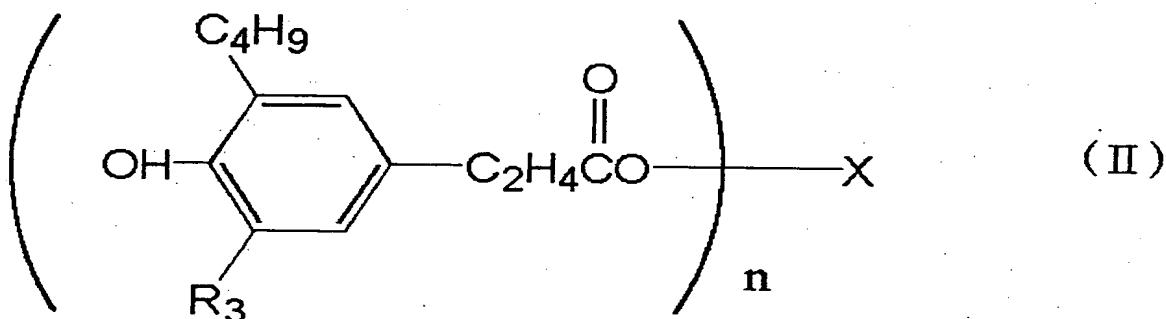
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wherein R_1 represents an alkyl group having 12 to 21 carbon atoms, wherein (a) and (b) are compounded in a polyurethane.

Claim 3 (previously presented): The composition according to claim 2, wherein the amide is at least one selected from the group consisting of stearic acid amid and behenic acid amide.

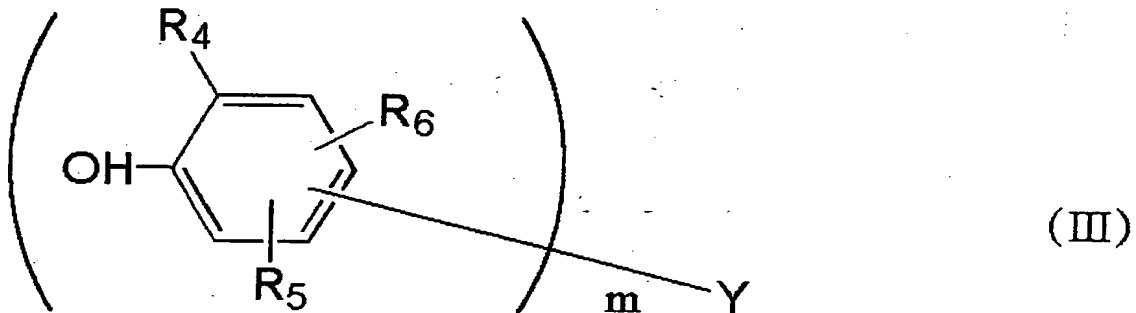
Claim 4 (canceled).

Claim 5 (previously presented): A process for preventing discoloring or coloring of polyurethane comprising:
compounding:
(a) a hindered phenol antioxidant which is at least one selected from the group of compounds represented by the following general formula (II) and (III):



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wherein R_3 represents an alkyl group having 1 to 8 carbon atoms; n represents an integer of 1 to 4; and X represents an n -valent alcohol residue, having 1 to 18 carbon atoms, which optionally contains a hetero atom and/or a cyclic group,



wherein R_4 represents an alkyl group having 1 to 8 carbon atoms; R_5 and R_6 independently represent a hydrogen atom or an alkyl group, having 1 to 18 carbon atoms, which **may** optionally contain a hetero atom; m represents an integer of 1 to 3; Y represents an m -valent group, and when m is 1, it represents a hydrogen atom or an alkyl group, having 1 to 18 carbon atoms, which optionally contains a hetero atom, when m is 2, it represents a sulfur atom, an oxygen atom or an alkylidene group having 1 to 4 carbon atoms, and when m is 3, it represents an isocyanutric acid- N,N',N'' -trimethylene group or a 1,3,5-trimethylbenzene-2,4,6-trimethylene group, and

(b) an amide represented by the following general formula (I):



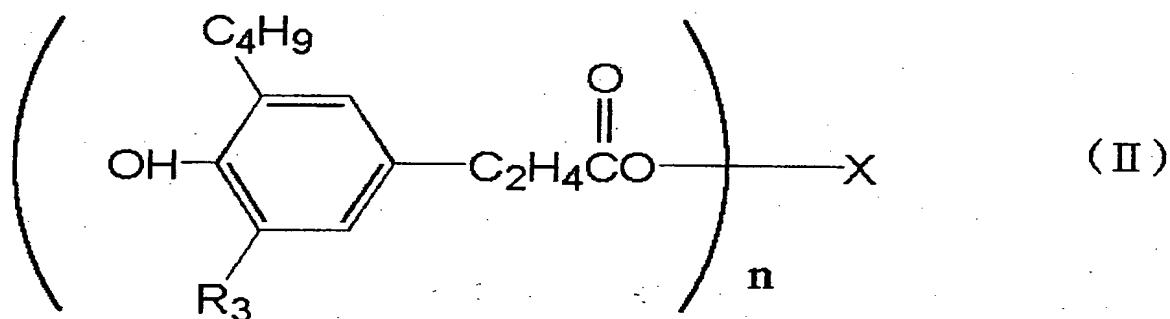
wherein R_1 represents an alkyl group having 12 to 21 carbon atoms in a polyurethane.

Claim 6 (previously presented): The process according to claim 5, wherein the amide is at least one selected from the group consisting of stearic acid amide and behenic acid amid.

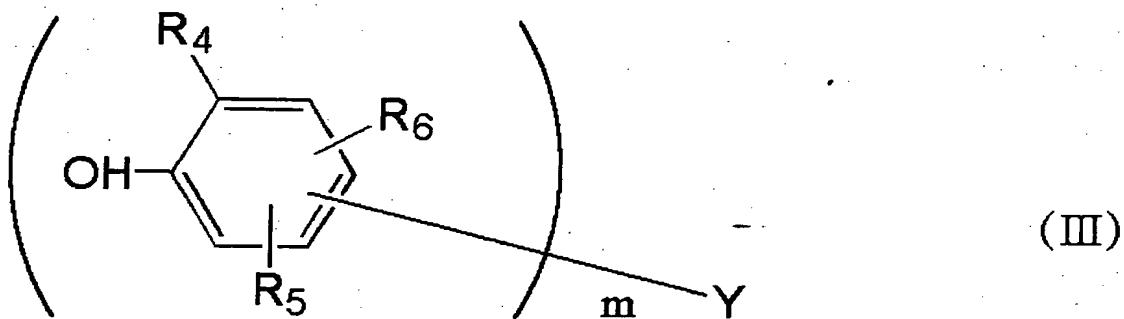
Claim 7 (currently amended): A process for producing a polyurethane composition having improved anti-leaching as to ingredients incorporated compounded therein, said polyurethane, said process comprising:

selecting said ingredients, compounding as said ingredients including[:],

(a) a hindered phenol antioxidant which is at least one selected from the group of compounds represented by the following general formula (II) and (III):



wherein R₃ represents an alkyl group having 1 to 8 carbon atoms; n represents an integer of 1 to 4; and X represents an n-valent alcohol residue, having 1 to 18 carbon atoms, which optionally contains a hetero atom and/or a cyclic group,



wherein R_4 represents an alkyl group having 1 to 8 carbon atoms; R_5 and R_6 independently represent a hydrogen atom or an alkyl group, having 1 to 18 carbon atoms, which optionally contains a hetero atom; m represents an integer of 1 to 3; Y represents an m -valent group, and when m is 1, it represents a hydrogen atom or an alkyl group, having 1 to 18 carbon atoms, which optionally contains a hetero atom, when m is 2, it represents a sulfur atom, an oxygen atom or an alkylidene group having 1 to 4 carbon atoms, and when m is 3, it represents an isocyanuric acid- N,N',N'' -trimethylene group or a 1,3,5-trimethylbenzene-2,4,6-trimethylene group, and

(b) an amide represented by the following general formula (I):



wherein R_1 represents an alkyl group having 12 to 21 carbon atoms, and

incorporating said ingredients in a polyurethane to obtain said polyurethane composition.

Claim 8 (previously presented): A process for dyeing a polyurethane composition obtained according to claim 7, comprising dyeing said polyurethane.

Claim 9 (previously presented): A fiber obtained from a polyurethane composition according to claim 2.

Claim 10 (previously presented): An elastic yarn obtained from a polyurethane composition according to claim 2.

Claim 11 (previously presented): A process according to claim 7, wherein R_1 represents an alkyl group having 18 to 21 carbon atoms.

Claim 12 (currently amended): A process according to claim 7, wherein the amount of amide incorporated in the polyurethane is compounded 0.01 part by weight to 10 parts by weight.

Claim 13 (previously presented): A process according to claim 7, wherein the amount of hindered phenol antioxidant compounded incorporated in the polyurethane is 0.05 to 5 parts by weight.

Claim 14 (previously presented): An elastic yarn obtained from a polyurethane composition obtained according to claim 11.

Claim 15 (New): A polyurethane composition according to claim 2, wherein said polyurethane composition further comprises a member selected from the group consisting of a dye and pigment.

Claim 16 (New): A polyurethane composition according to claim 2, wherein R_1 is an alkyl group having 18 to 21 carbon atoms.

Claim 17 (New): A process for preparing a polyurethane composition according to claim 16, wherein said polyurethane is colored with a member selected from the group consisting of a dye and a pigment.

Claim 18 (New): A polyurethane composition according to claim 2, wherein in the hindered phenol represented by formula (II) R_3 is a cyclic alkyl group.

Claim 19 (New): A polyurethane composition according to claim 2, wherein in the hindered phenol compound is represented by formula (II) R_3 is selected from the group consisting of butyl, tert-butyl, tert-amyl, tert-octyl, cyclohexyl, and 1-methylcyclohexyl.

Claim 20 (New): A polyurethane composition according to claim 2, wherein n is 1, 2 or 3 in the hindered phenol compound represented by formula (II).

Claim 21 (New): A polyurethane composition according to claim 2, wherein the hindered phenol is represented by formula (III).

Claim 22 (New): A polyurethane composition according to claim 2, wherein in the hindered phenol is represented by formula (III) Y represents a hydrogen atom, an alkyl group

having 1 to 18 carbon atoms, a sulfur atom, an oxygen atom, or an alkylidene group having 1 to 4 carbon atoms.

Claim 23 (New): A polyurethane composition according to claim 22, wherein Y is an alkyl group having 2 or more carbon atoms.

Claim 24 (New): A process according to claim 7, wherein in the hindered phenol represented by formula (II) R₃ is a cyclic alkyl group.

Claim 25 (New): A process according to claim 7, wherein said hindered phenol is represented by formula (III).

Claim 26 (New): A process according to claim 7, wherein in the hindered phenol represented by formula (III) Y represents a hydrogen atom, an alkyl group having 1 to 18 carbon atoms, a sulfur atom, an oxygen atom, or an alkylidene group having 1 to 4 carbon atoms.

Claim 27 (New): A process according to claim 26, wherein Y is an alkyl group having 2 or more carbon atoms.

Claim 28 (New): A process according to claim 7, wherein in the hindered phenol represented by formula (II) R₃ is selected from the group consisting of butyl, tert-butyl, tert-amyl, tert-octyl, cyclohexyl, and 1-methylcyclohexyl.

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Claim 29 (New): A composition according to claim 3, wherein said hindered phenol is at least one compound selected from the group consisting of 3,9-bis[2-[3-(3-tert-butyl-4-hydroxy-5-methylphenyl)propionyloxy]-1,1-dimethylethyl]-2,4,8,10-tetraoxaspiro[5.5]undecane, and 2,3,5-tris(4-tert-butyl-3-hydroxy-2,6-dimethylbenzyl)isocyanate.